



ASMJP.055DV1

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant	:	Satoh et al.
Appl. No.	:	10/759,953
Filed	:	January 16, 2004
For	:	SEMICONDUCTOR- PROCESSING DEVICE PROVIDED WITH A REMOTE PLASMA SOURCE FOR SELF- CLEANING
Examiner	:	Lund, Jeffrie Robert
Group Art Unit	:	1763

**DECLARATION OF KIYOSHI SATOH UNDER 37 C.F.R. § 1.132**

**Mail Stop AF**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I, Kiyoshi Satoh, do hereby declare and say as follows:

1. I am currently employed as a manager of a technical support group in the department of Customer Service at ASM Japan K.K. I joined ASM Japan K.K. in 1991 as a member of the Research and Development group. Over the last 16 years, I have worked in various capacities as a research and development engineer, project manager, and most recently as a manager of the technical support group in the customer service department. In particular, my work has focused on the development of plasma CVD deposition processes and apparatus. I am an inventor on various patents in the field of semiconductor fabrication, including the following U.S. patents: 6,193,803, 6,120,605, 6,767,836, 6,235,112, 6,113,704, 6,435,798, 6,736,147, 6,761,771, 6,919,270, 6,991,959, and 6,815,332. I am also listed as an inventor on the present patent Application. Prior to my work in the semiconductor industry, I earned a bachelor's degree in chemistry at Kumamoto University.

Appl. No. : 10/759,953  
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2. I have read and understand the claims in the present patent application. I understand that the claims concern a CVD device involving a deposition reaction chamber, a plasma discharge chamber that is remote from the reaction chamber, a piping between the two, and a valve in the piping, as well as other elements. Additionally, the valve, when fully opened, allows for a pressure drop across the valve of less than about 0.25 Torr, has a valve opening that is substantially as wide as the inner surface of the piping, and/or has a valve body that does not have projections with respect to the inner surface of the piping.

3. I have read and understand the rejections in the Final Office Action dated November 16, 2006. I understand that the Examiner has asserted that U.S. Pat. Nos. 5,812,403 and 5,939,831 to Fong et al. teach a valve that, when fully opened, has an opening that is sized substantially equal in width to the inner surface of the piping and does not have projections with respect to the inner surface of the piping. In particular, the Examiner's cited support for such a teaching is allegedly found in Figures 3 and 6a of each of the Fong et al. patents.

4. After having read both U.S. Pat. Nos. 5,812,403 and 5,939,831, it is my considered opinion that these patents do not teach the relevant valve, as presently claimed and described above in paragraph 2. I understand the cited sections in Fong et al. (Figures 3 and 6a) to merely demonstrate a schematic of the concept of a gate valve and not the particularly recited valve. Figure 3 merely represents the valve as a block 280 with a fluid passage 293 passing through it. There is no disclosure of the actual valve body or how it is involved. Thus, there is no disclosure regarding the possible position of the valve body when the valve is fully opened. Figure 6a represents the valve 280 as a block with a passageway. There is no depiction of the actual valve body. Thus, while Figures 3 and 6a do depict a valve 280 in a passageway, there is no actual teaching that the valve is configured so that, when fully opened, the opening through the valve is substantially equal in width to an inner surface of the piping and/or the valve does not have projections with respect to the inner surface of the piping.

5. There is nothing in the detailed descriptions of the two Fong et al. patents that alters my above analysis of Figures 3 and 6a. Thus, the Fong et al. patents do not teach a valve with the recited characteristics of a particular maximum pressure drop or a valve body that does not have projections with respect to the inner surface of the piping.

6. It is my opinion that one of skill in the art, after reviewing the Fong et al. patents, would conclude that, in some embodiments of the disclosed device in Fong et al. a valve can be


Appl. No. : 10/759,953  
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used. However, they would not conclude that Fong et al. teaches or suggests a valve with the characteristics described in paragraph 2 of this Declaration.

7. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Dated: Jan. 05, 2007

By:   
Kiyoshi Satoh

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